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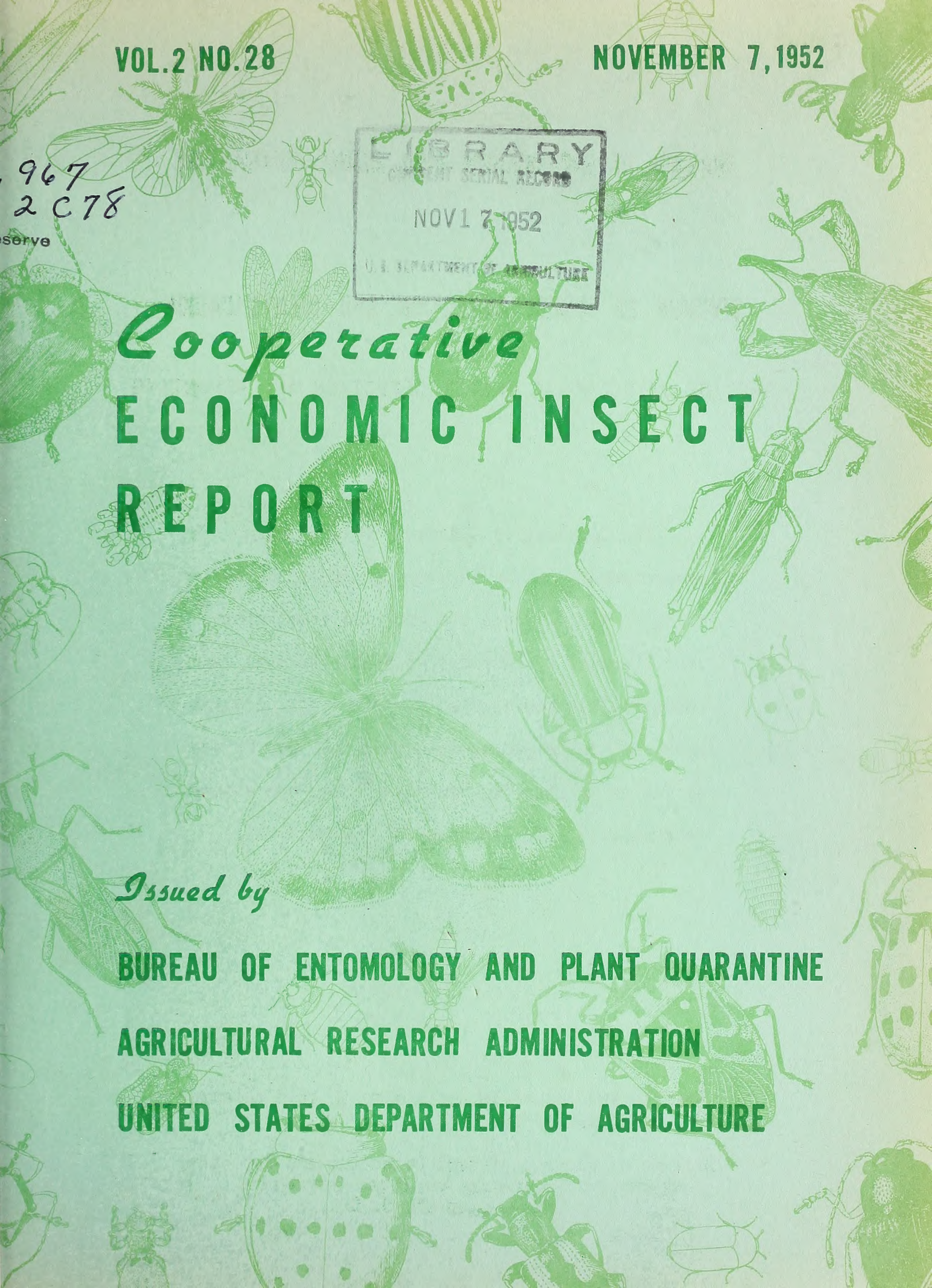

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Cooperative ECONOMIC INSECT REPORT

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DIVISION OF INSECT DETECTION AND IDENTIFICATION

SECTION OF ECONOMIC INSECT DETECTION AND REPORTING

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Bureau serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 2 November 7, 1952 No. 28

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

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WEATHER FOR THE WEEK ENDING NOVEMBER 4, 1952

Severe drought conditions persisted over most of the country during the past week, as precipitation was either much below normal or entirely lacking. Rain or snow fell in the Lakes region, parts of the Ohio Valley, and Northeast at the beginning of the period but amounts were generally light. New England received its first significant general snowfall of the season on the 28th and 29th, ranging from flurries in the southern portion up to 11 inches in the extreme north. Over the weekend general light showers fell in parts of New Mexico, Colorado, Montana, and the Northeast. Light showers occurred along the north Pacific Coast on a few days, but exceeded an inch only at a few stations along the coast of Washington. However, in practically all areas precipitation was insufficient to alleviate the fire hazard or halt the depletion of soil moisture and water supplies.

The week was unseasonably warm except in the Southeast where average temperatures for the week were as much as 6° below normal. At the beginning of the period temperatures fell to record low levels for so early in the season in the Southeast. A low temperature of 20° was recorded at Kosciusko, Mississippi, on the 30th, and frost occurred in the suburbs of New Orleans. Freezing temperatures were recorded southward to the interior of northern Florida and along the south Atlantic Coast causing light to severe damage to truck in Georgia and South Carolina. (Summary Supplied by U. S. Weather Bureau).

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Reports in this issue are for the week ending November 1 unless otherwise designated.

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Pyrausta nubilalis) -- KANSAS - Survey of Pottawatomie County showed about 35 percent of stalks infested, 3 to 5 larvae common in stalks. Considerable stalk breakage occurred. (R. C. Smith).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) -- TENNESSEE - Found in field corn during last week of October. (W. W. Stanley).

CORN EARWORM (Heliothis armigera) -- KANSAS - Severely damaged sorghum heads in southwestern 3 counties. Lighter damage elsewhere. (R. C. Smith).

CORN LEAF APHID (Aphis maidis) -- KANSAS - Peak of population reached on sorghum in early August and has declined to small numbers. (R. C. Smith).

SPIDER MITES -- KANSAS - Survey of 85 wheat fields in 17 southwestern counties showed adults and eggs most numerous in this area of the State. Severe drought has apparently reduced egg hatch. (R. C. Smith).

FALL ARMYWORM (Laphygma frugiperda) -- KANSAS - Has caused serious damage in many wheat fields in Haskell, Grant, and Hamilton Counties. Damage to ears, stalks and shanks of corn this year has been light. (R. C. Smith).

GREENBUG (Toxoptera graminum) -- SOUTH CAROLINA - Moderately abundant in some grain fields in Charleston area. (Reid, Cuthbert, Deen). KANSAS - Scarce but some found in young or volunteer wheat in most fields as far north as Nebraska border. No aphid species causing damage to grain at present in State. (R. C. Smith).

LEAFHOPPERS -- KANSAS - Several reports of abundance in wheat. (R. C. Smith).

FLEA BEETLES -- KANSAS - Common in wheat fields of southwestern areas but no problem. Serious damage in small areas in 2 fields in Mead County. (R. C. Smith).

PEA APHID (Macrosiphum pisi) -- UTAH - Continues very numerous in many succulent alfalfa fields in northern areas. Lighter on older alfalfa and some sweet clover. (G. F. Knowlton).

A LYGUS BUG (Lygus elisus) -- UTAH - Still moderately numerous in some fields of succulent alfalfa in northern areas. (G. F. Knowlton).

LUPINE MAGGOT (Hylemya lupini) -- FLORIDA - Lupine planted September 15 had 27 percent infested plants. Lupine planted October 1 had 10 percent infested plants. (F. E. Guthrie, Gadsden County).

MOLE CRICKETS -- GEORGIA - Causing considerable damage to golf greens at Fort Valley. (O. I. Snapp).

ARMY CUTWORM (Chorizagrotis auxiliaris) -- KANSAS - Moths taken at lights during October in central area. (R. C. Smith).

FRUIT INSECTS

PLUM CURCULIO (Conotrachelus nenuphar) -- GEORGIA - Hibernating population at Fort Valley is generally lighter than that of an average year. (O. I. Snapp).

PEACH TREE BORER (Sanninoidea exitiosa) -- GEORGIA - Infestation in Fort Valley area is at least as great as that of an average year. Heavy in orchards not treated for this insect last year. Growers beginning to apply fumigant-type control measures. (O. I. Snapp).

SAN JOSE and FORBES SCALES (Aspidiotus perniciosus and A. forbesi) have increased rapidly during past month in Fort Valley area. Infestation now greater than that of average year. Extended dry hot weather has facilitated increase and establishment of crawlers. (O. I. Snapp).

FRUIT FLY ACTIVITY IN HAWAII

July 1 through September 30, 1952

ORIENTAL AND MEDITERRANEAN FRUIT FLIES (Dacus dorsalis and Ceratitis capitata) -- HAWAII - Fruit fly infestations on Hawaii remained at comparatively high levels during the third quarter of 1952. A total of 8,143 puparia were reared from 4,535 fruits for an infestation index of 31.7 per pound. Rose apple was most heavily infested, averaging 149 puparia per pound of fruit. Indices of infestation for other fruits were guava, 45.3 per pound; mango 19.7 per pound; strawberry guava, 94.1 per pound; mountain apple 39.9 per pound; papaya, 1.6 per pound; and lime (only 17 fruits), 28.3 per pound. Individual-fruit studies indicated that from 10 to 100 percent of fruits contained fruit fly infestations, with most having infestations higher than 50 percent. With exception of 12 Mediterranean fruit flies reared from mango, all flies emerging from 275 pounds of fruit collected at lower elevations on Hawaii, were oriental fruit flies. Nearly all fruit flies reared from approximately 5 pounds of Jerusalem cherry collected at 4250 and 4600 feet elevations on Mauna Loa Truck Trail were Mediterranean fruit flies.

Maui - Average infestation index was somewhat higher on Maui than on Hawaii. From approximately 280 pounds of fruit consisting of 100 different collections, 11,407 fruit fly pupae were reared for infestation index of 44 per pound. Ratio of emergence from puparia was about one and one-third oriental fruit flies to one Mediterranean fruit fly. Most of the Mediterranean fruit flies were reared from peach collected in the cool Kula section of Maui at elevations from 2500 to 3000 feet, but some also reared from a few mango collections made at Lahaina, Wailuku, and Kihei; low elevation locations. In one kamani collection made at sea level in Lahaina, the Mediterranean fruit fly was the predominant species in a moderately high mixed infestation of both fruit fly species. Heaviest infestations on Maui were in peach, caused principally by the Mediterranean fruit fly, and oriental fruit fly infestations in rose apple and mango. Substantial oriental fruit fly infestations also occurred in guava, mountain apple, sapote and fig. Presence of a few scattered infestations of the Mediterranean fruit fly in low altitude areas in which oriental fruit fly is abundant and presumably still capable of exerting a competitive influence, is an unusual development.

OAHU - Samples of guava from Waimanalo had a mean index of 93.8 oriental fruit fly larvae per pound. Mean infestation in ten different guava plots in Brodie gulch was 21.3 fruit fly larvae per pound 42 days after last spray application. Ratio of emergence from puparia reared from guava from Brodie gulch was two oriental fruit flies to one Mediterranean fruit fly. Rose apples in Honolulu were 100 percent infested, producing 234 fruit fly puparia per pound, and from 1 to 31 per fruit. Only Mediterranean fruit flies emerged from the rose apples. Papayas at Waimanalo averaged 4.9 fruit fly puparia per pound on trees cleaned of all ripe fruits 5 days earlier. Previously the infestation had been 15.5 per pound; 86 percent oriental fruit flies, 14 percent melon flies (Dacus cucurbitae). No parasites emerged from puparia reared from papaya. Mangoes also had substantial fruit fly infestations.

Trapping results for September revealed that adult oriental fruit fly populations were approaching or had exceeded previous peak densities during periods of from 18 to 33 months at all trapping sites on Maui and in the Kupaahu area of Hawaii. An abundant mango crop plus other favorable host conditions were responsible for the increase in population densities. (P. W. Weber).

TRUCK CROP INSECTS

TOMATO RUSSET MITE (Vasates destructor) -- PENNSYLVANIA - Known extent of infestation in 1952 is as follows: Juniata County, McAllisterville vicinity, several fields; Montour County, Danville vicinity, spot in one field; Columbia County, Catawissa vicinity, 8,000 square feet; York County, near Shrewsbury, spotted in fields in 10 mile area; Erie County, North East vicinity, 1 acre in 5-acre field. (E. J. Udine).

CABBAGE CATERPILLARS -- FLORIDA - Cabbage looper (Trichoplusia ni) and imported cabbageworm (Pieris rapae) continue to rather heavily infest cabbage and collards in Quincy area. Unprotected fields badly damaged. Cabbage looper also abundant on lettuce. (L. M. May). SOUTH CAROLINA - Light to moderate brood of small larvae on lower leaves of most cabbage, collards, and broccoli in Charleston area. (Reid, Cuthbert, Deen).

LYGUS BUGS, chiefly Lygus apicalis, appearing on lettuce and carrots in small numbers in Charleston area. (Reid, Cuthbert, Deen).

APHIDS (Aphidae) -- SOUTH CAROLINA - Light infestation of Macrosiphum ambrosiae appearing on lettuce in Charleston area. (Reid, Cuthbert, Deen).

BEAN LEAF ROLLER (Urbanus proteus) -- SOUTH CAROLINA - Infestations, somewhat heavier than usual, continue on beans in Charleston area, but harvest practically complete. (Reid, Cuthbert, Deen).

A SQUASH BUG (Corecoris sp.) -- FLORIDA - Heavily infested one field of eggplant in Delray Beach area and one in the Pompano section during October. Also a pepper field and several species of non-economic plants in the latter area. Adults and eggs were present in all fields examined. (R. K. Herring).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) -- OKLAHOMA - Causing considerable damage to buds of roses at Magnum; also damaging small turnip greens. Reported damaging chrysanthemum buds at Clinton and Stillwater. (C. F. Stiles).

COTTON INSECTS

LEPIDOPTEROUS LARVAE DETERMINATIONS -- MISSISSIPPI - Thirty-nine vials of lepidopterous larvae specimens taken from cotton between July 7 and 11 were submitted by E. W. Dunnam, July 29. These collections were made chiefly in Stoneville vicinity, Washington County by R. Furr and assistants; however, 7 of the collections were by S. L. Calhoun from cotton grown in Holmes, Lowndes and Sharkey Counties. Determinations by J. G. Franclemont and H. W. Capps show that tobacco budworm, Heliothis virescens (F.), was by far the most abundant as there were 544 specimens in 34 of the collections. Bollworm, H. armigera (Hbn.), was second in abundance with 136 specimens in 25 of the collections. Forty-seven specimens in 8 collections were identified as Heliothis sp. In addition, there were 8 specimens of salt-marsh caterpillar, Estigmene acrea (Drury); 5 of loopers of the Autographa group, 2 of yellow-striped armyworm, Prodenia ornithogalli Guen.;

and 1 garden webworm, Loxostege similalis (Guen). This is further evidence that tobacco budworm is often the most abundant of the bollworms, especially early in the season and in the eastern half of the Cotton Belt. (R. W. Harned).

BOLL WEEVIL (Anthonomus grandis) -- OKLAHOMA - Freezes of October 7 and 21 failed to drive all weevils from fields in Stillwater vicinity. A few can still be found in remaining green squares and small bolls. (C. F. Stiles).

FOREST INSECTS

ELM LEAF BEETLE (Galerucella xanthomelaena) -- CALIFORNIA - Heavy infestations occurred on Chinese elm in San Bernardino County during October. (S. Lockwood).

DOGWOOD TWIG BORER (Oberea tripunctata) -- MARYLAND - Reported on dogwood in Anne Arundel County. Many dead twigs on one large tree. (T. L. Bissell).

A JAPANESE WEEVIL (Cyrtepistomus castaneus (Roelofs) det. by R. E. Warner -- WEST VIRGINIA - This insect was found in the State for the first time, August, 1952 near Charleston where it was damaging oaks, azaleas, dogwood and other trees and shrubs. Since the initial discovery, a complaint of the insects entering a home in Kanawha City has been received as well as an additional report of damage occurring to various plants at another homesite. It appears that the insect occurs on the south side of Kanawha River from Kanawha City to South Charleston and five or six miles south along State Route 14. Adults were collected at three different locations and typical feeding damage to oaks was seen at two additional spots. (F. W. Craig).

NANTUCKET PINE MOTH (Rhyacionia frustrana) -- GEORGIA - Damage to pines from seedlings to trees of 15 to 20 feet in Bibb County. Damage much more prevalent than heretofore. (E. R. Basinski).

TURPENTINE AND IPS BEETLES -- GEORGIA - Killing-out of pines by these insects seems to be on increase in Bibb County area due to the long drought during the summer. (E. R. Basinski).

SURVEY METHODS

EUROPEAN CORN BORER (Pyrausta nubilalis)

Abundance Survey -- The recommended procedure for making European corn borer fall abundance survey is to make 10 observations, or sample counts, per county. If it is found that contiguous counties cannot be sampled utilizing 10 counts per county, a survey on a district basis is preferred which averages about 5 counts per county. Fewer than 5 counts per county is not recommended.

An observation or sample count is obtained in a prescribed manner. The locations of the sampling points are distributed uniformly by marking them on a map of the area to be surveyed. The observer is instructed to proceed to the point marked on the map and sample the first corn field encountered. The sample is obtained after walking 50 paces into the field from the most accessible point. Beginning with the first plant on the observer's right, 25 consecutive plants are examined for infestation and the number of infested plants recorded. The last two infested plants encountered in the count of 25 are dissected and the number and stages of borers found are recorded. The product of percent infestation and average borers per plant becomes the estimate of the field population expressed as borers per 100 plants. The observer then proceeds to the next location and so on throughout the survey.

Distribution Survey -- The distribution surveys are less formalized than the abundance survey. In searching for new infestations available time and number of observers are the limiting factors. Recommendations have been to examine as many fields as possible which are deemed most likely to harbor the borer. For example, mid-season surveys should be made in earliest fields in the area under observation, and September or later surveys should be confined to late fields. Concentrations of borers if present are expected to be more abundant in the respective types of fields.

Service Survey -- Service surveys to determine the need for control should be organized so that observations can be made by state zones (corn testing districts, crop reporting districts, etc.) or at strategic points in the state. The number of observations is dependent on funds and assistants available. Observations to be made include periodic counts on development of the borer as it changes from a dormant condition to an active one and larvae change to the pupal state. The emergence of moths is used as a criterion of the probable time of the beginning of egg deposition which is the forecast of the beginning of the critical period in corn borer control. Sufficient plants are examined in a number of localities to determine the egg load. When the egg load approaches 50 masses per 100 plants on corn approximately 35 inches in extended leaf height in any locality, the situation is considered serious enough to advise treatment of similar fields with insecticides. If the egg load builds up rapidly and is general over a large area, dealers are to be alerted to the probable heavy demand for insecticide materials. In any case farmers are urged to make counts in their own fields to determine the need for the use of insecticides.

Similar observations are made on the progress of the development of the second generation borer in the more advanced corn, but treatment is not recommended until the egg load approaches 100 masses per 100 plants. However, treatment of mid-season or late corn is not recommended until the egg load approaches 100 masses per 100 plants. (Elmer W. Beck)